**3GPPSA4 #124 S4-230785**

**Berline, 22-26 May 2023** revision of S4-230641

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
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|  | **26**.**501** | **CR** | 0061 | **rev** | **2** | **Current version:** | **18.1.0** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network |  |

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| ***Title:***  | **[5GMS\_Ph2] Improvements on the multiple manifest downlink streaming call flow** |
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| ***Source to WG:*** | Tencent Cloud |
| ***Source to TSG:*** | S4 |
|  |  |
| ***Work item code:*** | 5GMS\_Ph2 |  | ***Date:*** | 2023-5-22 |
|  |  |  |  |  |
| ***Category:*** | **D** |  | ***Release:*** | 18 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)Rel-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
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| ***Reason for change:*** | This document improves the call flow description. The multiple entry points may be delivered through M8. While the delivery is out of scope of the standard, the process of selecting an entry point based on the device capabilities and preference, can be described using the current call flow. |
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| ***Summary of change:*** | * 5.2.4
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| ***Consequences if not approved:*** | Unclarity of 5.2.4 |
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| ***Clauses affected:*** |  |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  |  |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  |  |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  |  |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** | Rev 0: S4-230564: Initial submission at SA#123-eRev1: S4-230641: endorsed at SA4#123-eRev2: This document. Resubmitted the endorsed. |

 CHANGE

### 5.2.4 Procedures for downlink streaming to Media Players with different presentation manifests

Figure 5.2.4-1 illustrates a high-level procedure for downlink streaming to Media Players with different presentation manifests. The extensions compared to the DASH streaming in clause 5.2.3 are indicated in bold.

The procedure makes the following assumptions:

- Common media segments (e.g. based on CMAF [27]) are shared between multiple Media Players requiring different presentation formats (see clause 4.8).

- Key information to initialize the media decoding and rendering pipeline is present in the Media Player Entries (or referenced by the Media Player Entries).

Figure 5.2.4-1: High-level procedure for CMAF content shared by different Media Players

Steps:

1: The 5GMSd Application Provider provisions the 5G Media Streaming System, including content hosting.

2: The 5GMSd-Aware Application triggers the Service Announcement and Service and Content Discovery procedure with the 5GMSd Application Provider. The Service Announcement includes either the whole Service Access Information (i.e. details for Media Session Handling (M5d) and for Media Streaming access (M4d) **which may include a Media Entry Point URL for each of the different available presentation manifests,** or a reference to the Service Access Information.

3: A media content item is selected.

4: The 5GMSd-Aware Application triggers the 5GMSd Client to initiate the **5G Media Streaming Service**.

When the 5GMS-Aware Application has received only a reference to the Service Access Information (see step 1):

5: The Media Session Handler interacts with the 5GMSd AF to acquire the whole Service Access Information. **The Service Access Information may include a Media Entry Point URL for each of the different available presentation manifests**.

**6:** **The Media Session Handler provides the Media Entry Points to the 5GMS-Aware Application. The information may indicate a precedence order for these Media Entry Points.**

Then:

**7: The 5GMSd-Aware Application queries the Media Player capabilities for different manifests. If multiple streaming formats are supported, a preferred one may be indicated in the response.**

**8: The 5GMSd-Aware Application selects one of the Media Entry Points based on the information provided in steps 5 and 6 above.**

**9: The 5GMSd-Aware Application informs the Media Session Handler about the streaming format of the chosen Media Entry Point, for example for Consumption Reporting purposes.**

10: In parallel, the Media Player is invoked with the **selected Media Entry Point** to start media access and playback.

Steps 11 to 24 are identical to steps 6 to 19, respectively, in clause 5.2.3.